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NEW NORTH AMERICAN MICROLEPIDOPTERA

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It seems best to describe the following new forms at present, without waiting for the completion of revisional work on some of the groups involved.

Olethreutidae

Eucosma hazelana, new species

Head white. Palpus with second joint white, the outer surface buffy brown; third joint white, slightly tinged with buffy brown. Thorax white, patagia, collar, posterior part of pronotum, and scutellum, all tinged with brownish. Legs brownish, with a bar across the middle of the fore femur, and the tips of the tarsal segments white.

Fore wing (see Fig. 1) yellowish to fawn brown, broadly marked with pearly white as follows: a small basal dash; a broad, postbasal fascia, widest at middle of wing, not reaching costa; a broad, premedian fascia, not reaching costa, its proximal edge incised and its distal edge excised below middle of wing; a squarish patch, strongly constricted above its middle, on costa beyond middle of wing; this contains two brownish dots on costa; an oblong, preapical patch on costa, which curves basad below costa; an irregular patch at tornus, which sends a curved, spatulate projection toward the end of the cell and is connected by a fine, white, marginal line with a subapical, rectangular patch on outer margin; just above this and below the apex is a very small, obscure, white patch on outer margin; two very small white patches, touching each other, on inner margin beyond middle. The edges of the brown areas are in places noticeably darker than the central portions. Fringes white, lightly sprinkled with brown scales where the contiguous parts of the wing pattern are brown. Costal fold of male slightly less than one-quarter of costal length.

Hind wing brownish-tinted white, darker apically and terminally, the fringes yellowish white.

Length of primary of male holotype, 11.5 mm.; of paratypes, 12.2 and 11.0 mm.

Male genitalia (see Fig. 2) figured from holotype. In one of the paratypes the uncus is very slightly bifid. The actual length of the aedeagus is slightly longer than shown in the figure, due to perspective.

Holotype male collected at light by the author at Fountain Valley School, south of Colorado Springs, Colo., August 20-31, 1932. Deposited in the American Museum of Natural History.

Paratype male bearing the following labels: "S. W. Col. 7-99";

¹ A contribution from the Department of Biology of the College of the City of New York.

"Dietz." From the Kearfott Collection, in the U. S. National Museum.

Paratype male bearing the following labels: "Col."; "P"; "Collection G. D. Hulst"; "Dietz"; "Kearfott Col. AC. 4667"; "Am. Mus. Nat. Hist. Dept. Invert. Zool. No." From the Kearfott collection in The American Museum of Natural History. This specimen consists of the head with its appendages, the pro- and meso-thorax with legs, and both front wings.

It is with great pleasure that I name this distinctive species for Mrs. F. Martin Brown of the Fountain Valley School, Colorado Springs, Colo.

In pattern *hazelana* is closest to *E. robinsonana* Grote; from this species, as well as from other species of *Eucosma* of similar pattern it is differentiated by its greater size, by the entirely dissimilar brown of the fore wings, and by the irregularity of the margins of the brown markings, as well as by genitalia.

Tortricidae

Sparganothis hydeana, new species

Head and thorax dull yellowish brown, somewhat tinged with reddish. There is a considerable and varying admixture of fuscous scaling, especially on the outer side of the palpus. Legs light yellowish brown.

Fore wing (see Fig. 3) light yellowish brown in some specimens, in others a much darker brown with a considerable admixture of orange-brown or reddish-brown scales. The entire wing is covered with transverse reticulations; basally these are much broken, but distally they are somewhat more complete. The most prominent mark on the wing is a rather diffuse, roughly oval patch of fuscous scales at the end of the cell; from this a poorly defined area of fuscous scaling extends to the inner margin. In dark specimens there is also a poorly defined, subapical area of dark scaling which, in very dark specimens, extends in a curve down to the tornus. Fringes light yellowish brown with a darker basal line.

Hind wing light yellowish gray, with light fuscous, broken reticulations; these are strongest in the costal, apical, and distal regions. Fringes concolorous with the ground.

Length of primary of holotype male, 11.0 mm.; of allotype female, 9.8 mm.; average length of primary of paratypes, 11.1 mm.

Male genitalia (see Fig. 4). Uncus long, slender, slightly spatulate, hooked down near tip. Socii long, slender, swollen at tip, bearing fans of long hairs. Arms of gnathos long, slender, broadly spatulate at tips, which bear short, strong hairs. Transtilla well developed, with a series of short, strongly chitinized teeth dorsally. Harpé simple, slightly indented at end, with a strongly chitinized bar near ventral margin. Oedeagus narrowed near base, its base rounded, its tip pointed; a cluster of strong cornuti, apparently as many as 13 in number, near distal end; each cornutus is forked at its base and set in a socket by one of the forks.

Female genitalia (see Fig. 5). Genital plate rather plain, its proximal angles rounded and its proximal margin concave. Ductus bursae short, straight, constricted

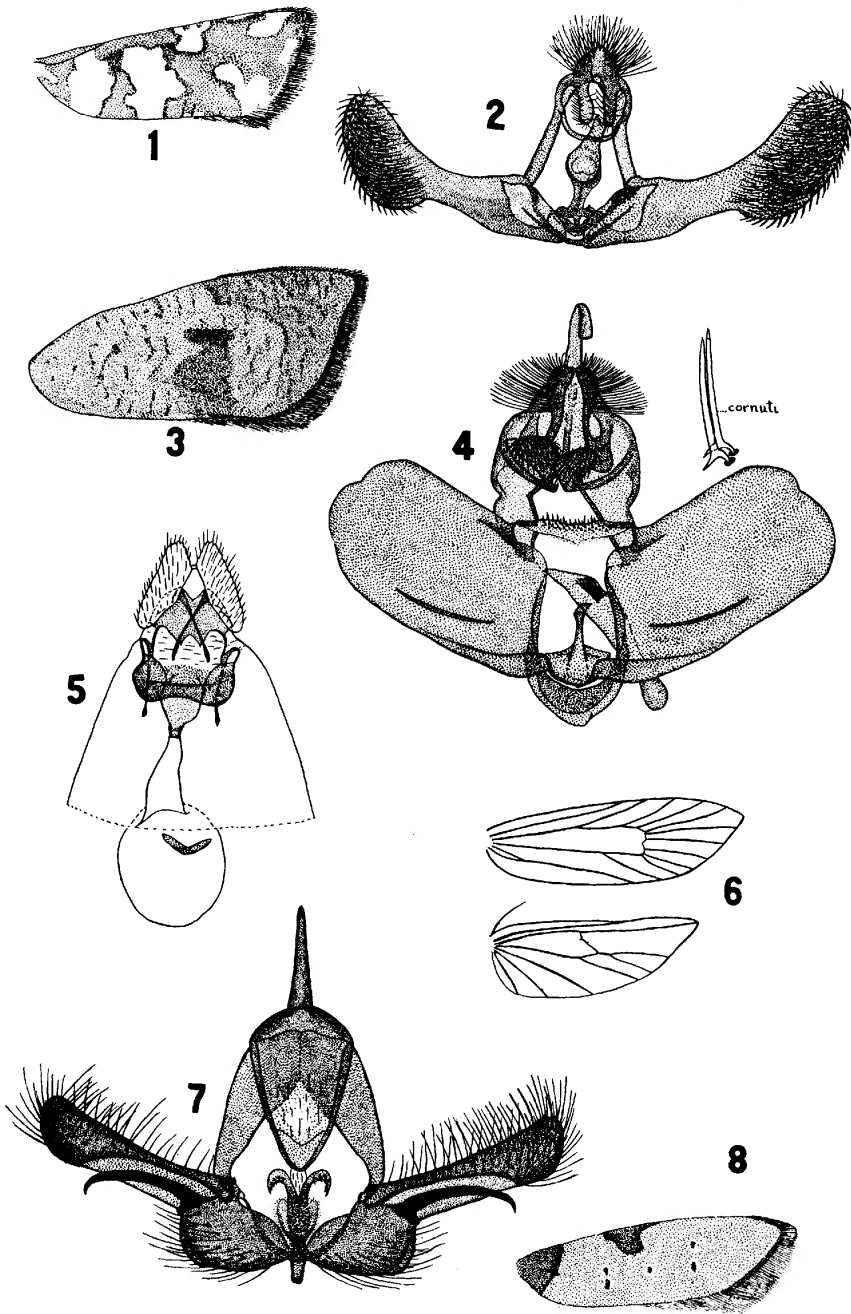


Fig. 1. *Eucosma hazelana*, new species, pattern of fore wing.
 Fig. 2. *E. hazelana*, male genitalia of holotype.
 Fig. 3. *Sparganothis hydeana*, new species, pattern of fore wing.
 Fig. 4. *S. hydeana*, male genitalia of holotype.
 Fig. 5. *S. hydeana*, female genitalia of allotype.
 Fig. 6. *Tesuquea hawleyana*, new species, wing venation.
 Fig. 7. *T. hawleyana*, male genitalia of holotype.
 Fig. 8. *T. hawleyana*, pattern of fore wing.

at slightly beyond one-third, as far as which point it is slightly more heavily chitinized, thence widening to bursa. Signum bursae a crescentic plate.

Holotype male, allotype female, 13 male and 2 female paratypes all from Hyde State Park, Little Tesuque Canyon, Sangre de Cristo Range, near Santa Fe, New Mexico, July 27–August 10, 1932. Collected at light by the author in a meadow surrounded by typical Canadian Zone, coniferous and quaking aspen forest. Altitude about 9200 ft.

At our camp in Tesuque Canyon this was the commonest “micro” except for *Argyresthia calliphanes* Meyrick. I am honored to name it for the late Mr. B. T. B. Hyde of New York City and Santa Fe.

In appearance *S. hydeana* is most like *S. machimiana* Barnes and Busck from which, however, it can easily be separated by the larger, more diffuse discal spot on the primary of *hydeana*.

Holotype, allotype, 2 males and 1 female paratypes deposited in The American Museum of Natural History; 2 male paratypes deposited in the U. S. National Museum; the remainder in the author's collection.

Carposinidae

TESUQUEA, NEW GENUS

GENOTYPE.—*Tesuquea hawleyana*, new species.

Head: collar rough; vertex and occiput fairly smooth, front smooth; palpi subascending, the second joint thick and heavily scaled but only very slightly if at all tufted, the third joint slender; antennae of male heavily ciliate.

Wing venation (see Fig. 6): primary with R_1 from slightly beyond middle of cell; R_2 , R_3 and R_4 running to costa; R_5 running to outer margin; base of M_1 nearer R_5 than M_2 ; M_2 , M_3 and Cu_1 from near lower angle of cell; M_3 and Cu_1 approximate; Cu_2 from about three-quarters way out on cell, leaving cell at an acute angle and running comparatively straight to margin; 1st A very weak; 2d A forked at base. Secondary with $Sc + R_1$ strong; R_s running to apex; M_1 and M_3 absent; M_2 and Cu_1 stalked; Cu_2 arising about five-sixths way out on cell.

Male genitalia (see Fig. 7): uncus long, slender, tapering; tegumen reduced; upper part of vinculum strong and wide, lower part reduced; gnathos long, slender, U-shaped; cucullus long, flat, slightly produced dorsally at tip; sacculus flat, greatly expanded, bearing a very long, strong, curved spine; saccus weak; juxta small, shield-shaped, lightly chitinized; oedeagus very small and weak, its distal third bifid, the two arms bearing a number of chitinized teeth in a double row.

Tesuquea hawleyana, new species

Structural characters as above.

Vestiture of head yellowish gray; palpus fuscous, the second joint slightly, and the third joint considerably, mottled with yellowish gray; scape of antenna fuscous with tip whitish, the basal 7–9 joints annulate with fuscous and whitish, the remainder

fuscous gray. Fore and middle legs mottled fuscous, the tips of the segments whitish; hind legs lighter grayish white. Abdomen light fuscous.

Pattern of primary (see Fig. 8): ground color a light, slightly brownish gray, mottled with whitish scales. Basal patch brownish fuscous, narrowly margined externally with black, slightly extended in points along cubital and radial stems, extending about a third farther distad along costa than along inner margin. A roughly triangular, dark patch slightly before middle of costa; inwardly this meets costa at nearly a right angle, outwardly at an acute angle, its apex broadly rounded. Two small, black scale-tufts at about one-third, the upper one just above Cu, the lower below this vein. A small, black tuft at about middle of wing at lower edge of cell. Two small, black tufts, one above the other, at end of cell. All tufts are more or less margined with whitish scales. There is a slight condensation of darker scales at apex and tornus. Fringes light brownish gray, slightly mottled basally.

Secondary light gray, unmarked.

Length of primary of holotype, 6.5 mm.; of paratype, 6.3 mm.

Holotype male and one paratype male, Hyde State Park, Little Tesuque Canyon, Sangre de Cristo Range, near Santa Fe, New Mexico, July 27–August 10, 1932. Taken at light by the author, in a meadow surrounded by typical, Canadian Zone, coniferous and quaking aspen forest, at an altitude of about 9200 feet. Holotype deposited in American Museum of Natural History; paratype in author's collection.

I take great pleasure in naming this species for Mr. Frank Hawley Ward of Rochester, New York.

Normally one should hesitate to describe a new species of microlepidopteron, let alone a new genus, from only two flown males. The present species, however, is so distinct, and may prove of such phylogenetic interest, that I consider it best not to await further material.

T. hawleyana is undoubtedly a true carposinid, as is shown by the palpus, antenna, male genitalia, and characteristic venation of the secondary. In the position of Cu₂ of the primary, however, and in the details of the genitalic structures, it differs radically from any other known North American member of this family, and in the former of these characters is widely divergent from any other carposinid known to exist anywhere. In all other members of the family Cu₂ arises from much nearer the end of the cell at an angle approximating 90°, and then curves decidedly to the wing margin.

In the male genitalia the presence of a long, pointed uncus and the absence of any trace of a transtilla are noteworthy characters not shared with any other carposinid that I have examined.

These may well be primitive characters that will place *Tesuquea* as a form more or less ancestral to the remainder of the family and be of aid in determining the ancestry of the Carposinidae. In this connection

it may be noted that *Sosineura mimica* Meyrick, which is generally regarded as very primitive because of its retention of M_1 of the secondary, nevertheless shows the characteristic carposinid Cu_2 of the primary, which is lacking in *T. hawleyana*.